

# Paleolithic Cave Art and Creativity

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The definition of the word art originates from the Latin word *ars* or *artem*, which means skill, craft, or work of art, among other similar descriptions.<sup>1</sup> Throughout history, art has been molded by different definitions and defined by people's perceptions. Oxford languages defines art as "the expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power." No matter what definition is given, art becomes a universal language that touches on the most profound aspects of being human. Art represents a connection to the past and future. It is evidence of the presence of human beings in a specific location and will continue to be used as evidence for generations to come. Every piece of art is a small window into people's ways of life from different periods of time.

Art is one area of human experience that seems not to have a parallel anywhere in nature. The act of creating art is a defining characteristic of the human species.<sup>2</sup> Human beings have always been driven to create, and almost all human cultures practice art. In general, there are only a few animals that even have the faintest hints of the beginning of culture.<sup>3</sup> However, human beings are immersed in culture directly reflected by their creation of art. It is art that shows, shapes, and comments on culture. Art is about the expression of beauty, and much of artwork was made for no other purpose than to produce something beautiful.

Human beings are born with the desire to create visual art. There are very few things that shape the human experience as profoundly as that of art. Until about 40,000 years ago, there was no sign of the production of art or other creative practices. Then suddenly, as far as the

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<sup>1</sup> Artincontext. "Why Is Art Important? - a Holistic Investigation into the Importance of Art." *Artincontext.org*, 25 Mar. 2022, <https://artincontext.org/why-is-art-important/>.

<sup>2</sup> Anderer, John. "This Study Explains Why Humans Are Creative." *Ladders*, Ladders, 18 Apr. 2020, <https://www.theladders.com/career-advice/this-study-explains-why-humans-are-creative>.

<sup>3</sup> Lents, Nathan H. "Why Do Humans Make Art?" *Psychology Today*, Sussex Publishers, 5 Sept. 2015, <https://www.psychologytoday.com/us/blog/beastly-behavior/201709/why-do-humans-make-art>.

archaeological record can tell, human creativity emerged more or less simultaneously around the world. This creativity is what drives progress and encourages changes in the world.

It seems that to have creativity, there must first be some intrinsic motivation for a task.<sup>4</sup> Doctor Victor Shama, a University of Arizona psychologist, believes that creativity's motivational roots are all about freshness and transcendence. Freshness is the feeling that this moment is complete, genuine, and unlike anything, anyone has felt before. Meanwhile, transcendence is the sensation of breaking through existing limitations or obstacles to connect with something greater, such as an ideal or a hidden truth. Doctor Shamas explains that human beings are drawn to creativity because it expands them, allowing them to know, feel, and be more.<sup>5</sup>

Looking at the earliest known art can help us understand more about creativity's role in human experience. Unfortunately, we know both a lot and nothing at all about paleolithic art. Wall art is found on all five continents. The meaning of a lot of this work is known only thanks to the tribes that still exist in those areas and have knowledge of ancient tribal stories. There are around 275 decorated sites in Europe that are currently known about. However, this is likely only a tiny portion of what there originally was. The investigation of cave art began after the first cave paintings were discovered in the late eighteen hundreds in Altamira, Spain. Since then, paleolithic cave art has been explored at depth by archaeologists.

The current emphasis is on recording the art, not just the marks made but their context as well. By using stereo photographs and some key measurements, it is possible to produce a

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<sup>4</sup> Koehler, Jessica. "Motivation for Creation: Understanding the Intersection of Intrinsic Drive and Creativity." *Psych Learning Curve*, 23 Dec. 2019, <http://psychlearningcurve.org/motivation-for-creation-understanding-the-intersection-of-intrinsic-drive-and-creativity/>.

<sup>5</sup> Brown, Nicola. "What Prehistoric Cave Paintings Can Teach Us about the Psychology of Creativity." *Skyword*, 11 Sept. 2017, <https://www.skyword.com/contentstandard/prehistoric-cave-paintings-can-teach-us-psychology-creativity/>.

detailed contour map of an object or panel, which can then be used to make an accurate three-dimensional copy.<sup>6</sup> The best-known example of this is Lascaux II, completed in 1983. The original Lascaux cave was discovered in 1940 by four teenagers. Archaeologists quickly realized the cave's significance, and it was opened to the public in 1948. However, having thousands of people visit the cave each day began to damage the painting, and the cave had to be closed to the public in 1963 in order to preserve the paleolithic art. Lascaux II contains the main sections of the cave with an accuracy to the original measured in millimeters. However, a copy is only as good as the copier, and every tracing or copy is subjective. There are cases of bad copying, which were republished by others not knowing mistakes were made. No copy can ever be definitive, and so no cave art can ever be entirely known. Things will be missed if all that is being seen is a copy or a photograph.

It is difficult to understand paleolithic cave art without seeing it in person. Seeing a video or photo of a piece of work does not have the same effect on viewers as seeing the original. Walter Benjamin, the author of *Art in the Age of Mechanical Reproduction* which was published in 1935, wrote that there is a certain aura to seeing a great work of art in person that is lacking when seeing reproductions of the same piece. In a recent study, 302 subjects were told the story of and shown an original hand-painted work and an exact replica painted after it. Participants found the original painting far more valuable because the artist "poured his soul into it." This "soul" is lacking in replications of art. Cave art is not just art that happens to be found in caves. The art came from within the cave itself and could not exist on its own. The cave is like a frozen flash of a moment in time that can only be experienced in person. A person needs to enter the caves and sense the darkness beyond the lit pathways to really feel the magic that is contained within this art.

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<sup>6</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

The beginning of paleolithic culture is dated around 46,000 B.C. The earliest known artistic work seems to have been made simply as decoration for other objects around 30,000 B.C. Visitation to caves was spread across millennia. In most cases, the artwork was respected and left as it was. Hands and feet prints of children and adults have been found in various caves indicating that individuals of many ages were allowed access deep into the caves. High levels of technical skill and artistic achievement are seen in all phases of paleolithic culture. There are two main types of paleolithic art, portable and parietal. The techniques and content of both have differences based on the region and time period they come from. It is pointless to try to encompass all of it into one theory. There are no absolute rules when it comes to paleolithic art, and there are always exceptions.

Paleolithic Europeans painted far below ground and in total darkness for almost twenty-five thousand years. It could be that it was necessary to produce a drawing in total darkness. The caves' location was chosen carefully and followed a diverse logic. The sites are either in locations that are highly inaccessible or in spots that are difficult to reach but once found obvious to see. While no two caves are identical, specific sites were used repeatedly. A favorite spot sometimes persisted over a period of a thousand years.<sup>7</sup> Some argue that they chose their art sites based on perceived spiritual power in the area.<sup>8</sup> There are several rites and religious practices that were devoted to the cave. It is possible that paleolithic people perceived caves differently. The perceptions may have diverged according to the size of the cave. Larger areas could fit more people, and bigger images could be drawn. These carefully prepared and very

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<sup>7</sup> Lyons, Joseph. "Paleolithic Aesthetics: The Psychology of Cave Art." *The Journal of Aesthetics and Art Criticism*, vol. 26, no. 1, 1967, <https://doi.org/10.2307/429249>.

<sup>8</sup> Clottes, Jean. *What Is Paleolithic Art?: Cave Paintings and The Dawn of Human Creativity*. University of Chicago Press, 2016.

visible images may have played a special role in the celebration of rites. Smaller caves, however, could only fit one person. This meant that the images made there could not be seen by a group.

The walls were also chosen for a specific reason. The artists looked for forms found in the rocks. Based on where the light is held, the rocks form themselves into different shapes. Therefore, they must have paid attention to the shapes that appeared and disappeared in the shadow of the light. Some hypothesize that it was necessary for the walls to accept the images and that the people looked to see if the walls were spiritually suitable. Whatever the reason these sites were chosen, those who visited the caves took advantage of what they found there.

The first and simplest theory of the reason behind paleolithic art is the theory of play which argues that the art had no meaning and was just art for art's sake.<sup>9</sup> Its sole function was for pleasure and to decorate. Human beings have an innate desire to create and leave a mark on the world. It could be compared to modern graffiti in this way. However, to make this comparison and attribute this desire to fill empty places with images that bring forth emotions is us projecting the present on the past. We do not know what these paleolithic artists were thinking, and so there is no way to prove this theory. Even if paleolithic people did not make Art for Art's sake, they did seem to strive to find an aesthetic quality in their portrayal of animals that is exceptional in rock art around the world. The caves are decorated with paintings that demonstrate an impressive mastery of shapes and techniques. These were true artists who held a real grasp of their subject matter. Most of these paintings could not have been done by beginners or anyone lacking an artistic sense.<sup>10</sup>

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<sup>9</sup> Lyons, Joseph. "Paleolithic Aesthetics: The Psychology of Cave Art." *The Journal of Aesthetics and Art Criticism*, vol. 26, no. 1, 1967, <https://doi.org/10.2307/429249>.

<sup>10</sup> Clottes, Jean. *What Is Paleolithic Art?: Cave Paintings and The Dawn of Human Creativity*. University of Chicago Press, 2016.

Another common theory is the theory of utility which argues that all activities, including artistic ones, subserve practical and, ultimately, social ends. This view was first offered by Salomon Reinach, who thought that art arose in the service of hunting magic.<sup>11</sup> This theory argues that the depictions of animals were created in order to control or influence real animals in some way. The assumption of the theory of utility is that the naturalism of the animals represented, the accuracy of their proportions, and the desired visual effect played an important role in their beliefs and rituals. Looking at art this way, it was created for functional reasons having to do with the need for food. The relationship between the depicted animals and the remnants found in areas surrounding the art ranges from non-existent to quite good.<sup>12</sup> However, evidence for the use of sympathetic magic of any kind and actual depiction of hunting is extremely scarce. Additionally, the art is much more complex than needed if hunting was simply the only reason for it.

What the art depicts is only part of it. The job of reaching it and the act of seeing it play a large role in the experience as well. The sense of secrecy and the darkness involved with visiting these caves is memorable in itself. Aside from the physical challenges that one encounters when visiting these caves, there are more daunting challenges as well. The total darkness, lack of sound, loss of sense of direction, changes in temperature, and a deep sense of claustrophobia are there as well.<sup>13</sup> People are placed in similar scenarios today for more dangerous reasons, such as brainwashing or debriefing. This setting creates an environment of physical and mental discomfort. On the other hand, the sensory deprivation one experiences in this setting also concentrates the mind.

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<sup>11</sup> Clottes, Jean. *What Is Paleolithic Art?: Cave Paintings and The Dawn of Human Creativity*. University of Chicago Press, 2016.

<sup>12</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

<sup>13</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

There is speculation that the dots, grids, and streaks from the paleolithic caves were snapshots of what our cave-dwelling, light-starved ancestors saw under similar conditions. It could also be that the patterns are not abstract but literal representations of hallucinations that the artists experienced deep in the caves.<sup>14</sup> The subterranean environment of the caves gives it a hallucinogenic character by cutting a person off from time and external stimuli. It is plausible that deep caves served as a place to seek visions.

Interestingly, people not only approached caves with the same perspective but also repeated the same actions in them. Each generation that explores paleolithic art explains the evidence in their own way. The interpretations are governed by the knowledge and preoccupations of academics in different decades. There is possible truth to all these theories, and there may be many other motivations that will never be known.

Perceptual psychology can explain the underlying procedures that led to the creation of the first animal depictions. In humans, vision is the dominant sensory mode. In situations where darkness prevails, the visual system tends to override other sensory modalities. In order to counteract the darkness, the visual system automatically attempts to fill in the gaps by providing visual guesses at what might exist in the dark surroundings.<sup>15</sup> Caves are multisensory evocation environments that seem to have served as a proxy for the natural environment in which hunter-gatherers searched for animals that attempted to remain concealed.

The first intentional image must have been inspired by the coming together of a number of criteria. This includes the primed hunter-gatherers' visual systems, intimate knowledge possessed by hunters of the features of animals, suggestive rock formations, the dark cave

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<sup>14</sup> Waldman, Katy. "What Can Paleolithic Cave Paintings Teach Us about When Humans Became Human?" *Slate Magazine*, 18 Oct. 2012, [http://www.slate.com/articles/health\\_and\\_science/human\\_evolution/2012/10/cave\\_paintings\\_and\\_the\\_human\\_brain\\_how\\_neuroscience\\_helps\\_explain\\_abstract.html](http://www.slate.com/articles/health_and_science/human_evolution/2012/10/cave_paintings_and_the_human_brain_how_neuroscience_helps_explain_abstract.html).

<sup>15</sup> Hodgson, Derek. "Upper Palaeolithic Art as a Perceptual Search for Magical Images." *Time and Mind*, vol. 14, no. 4, 2021, pp. 487–499., <https://doi.org/10.1080/1751696x.2021.1961048>.



environment, and emotionally aroused visual heuristics. Hunters are acutely sensitive to particular animal contours. In challenging lighting situations where an animal may be camouflaged, the hunter becomes hypersensitive to such features. In dangerous conditions, the human visual system becomes increasingly aroused and is more easily triggered.<sup>16</sup> Upper paleolithic hunters conditioned themselves due to the need to detect animals. This would have caused paleolithic artists to accept the slightest cue in a rock as an animal and could explain how the very first representational depiction arose.

Someone must have noticed that a certain rock formation resembled the contours of an animal to the extent that all that was needed to bring out the likeness of the animal was a few extra marks. To the first picture makers, the ability to make and perceive pictures must have been a novel experience. It would have seemed like magic to our early ancestors to see images of animals on cave walls and be able to make them a permanent feature of the environment. Later humans may have visited the caves to view or refind existing depictions or create new representations to re-experience the magic.

Paleolithic cave art feels almost supernatural due to the incomprehensible amount of time since its creation and the connection it provides to man's earliest ancestors. It is theorized that paleolithic humans left their art in an attempt to communicate or share information with other people who may wander upon the cave. Alternatively, perhaps they were pushed by the familiar human desire to leave their mark on the world. Cave art is still created today. However, the canvas has evolved from the walls of caves to the walls of buildings. Thousands of years from now, future generations will know about life in the twenty-first century due to the art left behind.

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<sup>16</sup> Hodgson, Derek, and Paul Pettit. "A Radical New Theory about the Origins of Art." *SAPIENS*, 30 May 2018, <https://www.sapiens.org/archaeology/paleolithic-cave-art-animals/>.

Paleolithic Art began with portable pieces of sculpture, the result of the discovery of the representing object. The second major form, the life-size done as relief, helped make a bridge between sculpture and painting following the discovery of the frame; this refers to the metaphorical borders used to contain the image. Finally, at the high point of prehistoric art, painting became possible. The artists of the stone age were occupied with separating out a represented object from the real object of nature, which appeared in the visual field. At first, paintings were in the form of outlines and silhouettes, but gradually colors and shading were brought in when the concept of the frame was adapted to the conditions of locations within the caves.<sup>17</sup> Only recently have artists stopped using frames, recognizing that viewers may be capable of keeping apart the two spaces without any help. Only when the frame is removed, and the boundary between real and unreal is eliminated is the viewer invited to join the artist in their own magical space. This is when art becomes a living experience.

There were a variety of techniques used to make parietal art. The most important thing to know about how it was made is that the artists used the natural features of the cave walls. The simplest form of marking cave walls was to run a finger over them. The walls of the caves had a soft layer of clay or mondmilch, a white, clayey precipitate of calcium carbonate, as the top layer.<sup>18</sup> A mark was left when the artists pressed or dragged their fingers through this soft top layer.

The most used technique on cave walls was engraving. These range from thin, barely visible lines to deep thick lines. Additionally, scratching and scraping were also used at times. In most cases, fine engraving is nearly invisible when lit from the front, but when lit from the side, they leap out. Based on which side needs to be lit for the image to become visible, we can tell if

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<sup>17</sup> Lyons, Joseph. "Paleolithic Aesthetics: The Psychology of Cave Art." *The Journal of Aesthetics and Art Criticism*, vol. 26, no. 1, 1967, <https://doi.org/10.2307/429249>.

<sup>18</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

the artist was left or right-handed. The majority of paleolithic parietal engravings are best lit from the left, telling us that most artists at the time were right-handed.<sup>19</sup> It is also possible that they used lighting as a tool to create a greater effect when the engravings appear or disappear.

In places where the walls were too rough for small incisions, engraving became like a form of painting. Unlike deep engravings, where the image comes from the light and shadows of the incisions making the relief, the image instead comes from the difference in color between the white engraving and the darker surrounding area of the panel. Painting was done using pigments from minerals. Paleolithic artists had five primary colors to work with, red, yellow, brown, black, and white. The red pigment on cave walls has proven to be iron oxide applied in the form of a watercolor which had then penetrated the rock. Black usually came from using manganese dioxide or charcoal.<sup>20</sup>

The paints were prepared in a number of ways. First, the pigment was ground or heated up and made into a powder. Next, the pigment had to be mixed with a binder, the material that holds the pigment together. This usually consisted of animal fats, plant juices, or spit. Sometimes the pigments contained additives such as ground feldspar or biotite mica as extenders, a substance added to the paint to increase its volume. Some of the paints were left to harden to make painting sticks similar to today's crayons.<sup>21</sup> Other times the pigment was left in a liquid state. The paint was applied with swabs or pads created from moss or animal fur. Watery pigments were blown onto the cave walls from the mouth or through tubes made from hollow bones or reeds to create a spray paint technique that was used for shading. Another method was using animal bones as a paintbrush by dipping one end into the paint.

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<sup>19</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

<sup>20</sup> Bahn, Paul G. *Images of the Ice Age*. 3rd ed., Oxford University Press, 2016.

<sup>21</sup> "Prehistoric Pigments." *RSC Education*, 1 Oct. 2015, <https://edu.rsc.org/resources/prehistoric-pigments/1540.article>.

The places that were chosen were deep within caves so dark that they required fire to see them and in locations that required effort to enter. Lamps with animal fat that had to be replenished regularly and wicks that needed replacing were used to combat the total darkness of the caves.<sup>22</sup> The flames illuminated only a small area. They flickered, causing the shadows on the walls to move, animating and accelerating surface details that would then return to darkness. Works could only be fully seen if the viewer placed themselves in the exact right spot. It would be like entering a different world, and this is how magic was born.

Caves are the opposite of people's everyday environment. They are dark and quiet as opposed to today's light-filled noisy world. Entering a cave is like entering a new world and leaving the familiar behind. Once inside, a person is taken back to a time when human civilization was just starting out. There is little daily change inside a cave. Instead, endless darkness is the norm, and only a sliver of the cave is visible at a time. There are no stars or wind to guide us as the darkness takes away all sense of direction. As our brains scramble to find some piece of information to guide us, our imaginations become increasingly active.

The location of the paintings in the caves is interesting as the deeper areas of the cave were rarely used for daily living, which was usually done closer to the entrance of the cave. It is theorized that these paleolithic artists were purposely going deeper into the caves in order to induce hallucinations which then inspired the art they made. Throughout the caves, oxygen levels vary depending on the depth and narrowness. Using fire to light the caves would have further reduced oxygen levels and led to a state of hypoxia which released dopamine and can lead to hallucinations.<sup>23</sup> Further proof for this theory comes from studies that have found that

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<sup>22</sup> Clottes, Jean. *What Is Paleolithic Art?: Cave Paintings and The Dawn of Human Creativity*. University of Chicago Press, 2016.

<sup>23</sup> Kedar, Yafit, et al. "Hypoxia in Paleolithic Decorated Caves: The Use of Artificial Light in Deep Caves Reduces Oxygen Concentration and Induces Altered States of Consciousness." *Time and Mind*, vol. 14, no. 2, 2021, pp. 181–216., <https://doi.org/10.1080/1751696x.2021.1903177>.

being in a dark environment alone for an extended period of time can result in an altered state of consciousness.

In a study done by CKGSB Professor Juliet Zhu, it was found that environmental factors such as lighting, temperature, and noise impact people's creative thinking processes and productivity.<sup>24</sup> It is a common misconception that noise has a negative impact on cognition. In truth, it turns out that moderate levels of noise are actually facilitating when it comes to creative thinking. In this study, people in the moderate noise condition were found to think more creatively than those in the low noise or high noise conditions. When a person is one hundred percent focused on a task, they are so narrow-minded that they can not think out of the box. However, background noise distracts people from their focal task allowing their minds to wander and therefore be more creative. When it comes to temperature, a higher temperature is found to activate affective processing, where not all information is processed, forcing people to rely on their gut feelings and intuition. This is because heat depletes resources or the amount of mental energy a person has, so they can only process a subset of information and instead go with their gut feelings. In terms of lighting, this study found that people are more creative in dark spaces than in bright ones. People often try to control their behaviors and regulate themselves, especially when they are in a well-lit location and it feels like every person is observing and judging them. However, in a dim room, people's guards go down a little because they feel that other people can not see them.

Great artists and original thinkers often seem instinctively drawn to darker times.

Psychologists Anna Steidel and Lioba Werth conducted a series of experiments designed to measure how creativity responds to various lighting schemes. They reported that something in

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<sup>24</sup> Tian, Major. "How the Environment Impacts Creative Thinking." *CKGSB*, 13 Jan. 2014, <https://english.ckgsb.edu.cn/knowledges/how-the-environment-impacts-creative-thinking/>.

the brain switches on when a light switches off. It was discovered that merely thinking about different types of light influences a person's creativity. Darkness triggers a change of interrelated processes, including a cognitive processing style that is beneficial to creativity. When the lighting in a room is dim, it creates a visual message capable of nudging one's mind into an exploratory mode. Dark places suggest an uninhibited sense of freedom that loosens a person's thoughts, while bright places suggest a sort of compliance that restrains them.<sup>25</sup>

Since the time of cave paintings, art has continued to be used as a way of communicating stories and ideas. Therapeutic rituals using visual arts can be found in ancient cultures from hundreds of years ago. The formal practice of art therapy began in Europe in the mid-twentieth century. During this time, thousands of people were suffering in sanatoriums from tuberculosis. There it was seen that drawing and painting was a creative outlet that provided them with the freedom they could not physically have. The practice of art therapy soon spread as the connection between artistic expression and emotional release was further studied. The practice has further evolved as ideas about psychology, the unconscious, and the use of art as an expression of a person's inner mind have grown.

When a person sees a piece of art that they think is beautiful, they get a hit of dopamine, and when a piece of art challenges them, their cognitive wheels start turning.<sup>26</sup> Art brings people together physically and culturally through its ability to tell stories. These feelings bind us to the work of art in ways that are elevating and transportive. This is something that only happens when art is viewed in person. Only when viewing art face to face can a person grasp the full experience of a piece of art.

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<sup>25</sup> Jaffe, Eric. "Why Creativity Thrives in the Dark - Fast Company." *Fast Company*, 1 Jan. 2014, <https://www.fastcompany.com/3020888/why-creativity-thrives-in-the-dark>.

<sup>26</sup> Schrobsdorff, Susanna. "How Seeing Art in Person Affects Your Brain and Your Heart." *Time*, Time, 10 May 2021, <https://time.com/6047073/how-seeing-art-in-person-affects-your-brain-and-what-its-like-to-visit-a-museum-now/>.

Cultural participation has been used both in governmental policies and as medical therapy based on the assumption that cultural activities will improve health. A study was done analyzing the association between cultural activity and perceived health, anxiety, depression, and satisfaction with life in both genders. The study was based on the third population-based Nord-Trondelag Health study done from 2006 to 2008 that included 50,797 adult participants from Nord-Trondelag County, Norway. Data was collected by comprehensive questionnaires on cultural activities, both receptive and creative, perceived health, anxiety, depression, and satisfaction with life. The study found that there were statistically significant associations between participation in receptive, creative cultural activities and the health-related variables.<sup>27</sup> These benefits were found both in people who created or consumed the arts. This means that cultural participation does in fact positively improve health.

We look at, experience, and purchase art because it makes us feel something that goes beyond anything monetary. There is a unique physiological, psychological chain reaction a person experiences when they encounter art in person called embodied cognition. This is the human being's tendency to see themselves in a work of art or to see themselves creating the work when they are engaged with a piece of art. Semir Zeki, a professor at the University of College London, researched how our brains react when we look at art. He found that there is increased activity in the pleasure and reward centers of the brain when looking at art.<sup>28</sup> Essentially, art has the power to make a person feel good, as biologically experiencing art gives people pleasure. When a person looks at art, they come away with a better understanding of the world around them and a feeling of being part of something special.

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<sup>27</sup> Cuypers, Koenraad, et al. "Patterns of Receptive and Creative Cultural Activities and Their Association with Perceived Health, Anxiety, Depression and Satisfaction with Life among Adults: The Hunt Study, Norway." *Journal of Epidemiology and Community Health*, vol. 66, no. 8, 2011, pp. 698–703., <https://doi.org/10.1136/jech.2010.113571>.

<sup>28</sup> Durec, Nathan. "The Benefits of Viewing Art - VVAF." *Vancouver Visual Art Foundation*, 11 Jan. 2021, <https://www.vanf.com/post/benefits-of-viewing-art>.

Studies show that art therapy can be a valuable tool in treating issues such as depression, anxiety, post-traumatic stress disorder, and even some phobias.<sup>29</sup> While it is difficult to define exactly what art therapy is, most explain it as an application of the visual arts in a therapeutic context. Creating art allows people to slow down and explore any issues they may be having. The focus is not on the final product, as art therapy is not about becoming a great artist. Instead, the focus is on finding meaning and connection in one's life. Art therapy boosts self-esteem providing a safe outlet for one to relieve their emotions. It gives people a sense of control over their lives and helps them get to know and understand themselves better.

Understanding the importance of art on human beings today connects us to the past. Hundreds of thousands of years ago, humans painted on cave walls, and today, humans do the same. These pieces of art are a direct message from the past. While the true purpose behind paleolithic cave art will likely never be known, the mere existence of it strengthens the bond between people today and their ancestors long ago. This art serves as a reminder of the role art has played and will continue to play in human lives.

Meanwhile, Paleolithic cave art is still leaving its mark on the world today as it influences modern and contemporary artists. For example, the animals typically found in cave art can be found in Picasso's depiction of bulls. Meanwhile, Jackson Pollock showed his appreciation for cave art by including hand prints in some of his work. The argument can even be made that the inspiration for graffiti is paleolithic cave art.

Today culture is extrinsically driven, but back then, the intrinsic value of the creative experience itself was understood. There must have been a strong intrinsic motivation to spend time making art in a dark cave beyond the drive to express feelings and communicate ideas.

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<sup>29</sup> “Creativity and Recovery: The Mental Health Benefits of Art Therapy.” *Resources To Recover*, 29 July 2020, <https://www.rtor.org/2018/07/10/benefits-of-art-therapy/>.



They were able to fully immerse themselves in the experience of creating with no distractions or outside concerns. The making of the art itself was innately pleasurable.

I wanted to see what it was really like for these paleolithic artists to paint in dark, quiet caves. So I decided to simulate the conditions of painting in a cave. I took a 14 inch by 17 inch page of bristol paper and crumpled it up. This gave the page more definition. Instead of lying flat, there were places where the paper bunched up, creating bumps like those there would be in a cave. I then took this paper and hung it up on the wall of a small closet with no windows. After turning off all the lights, I brought a candle into the room with me and got ready to paint.

When deciding what paint to use, I went through a number of options. My first choice was to make my own paint as the paleolithic artists did. While this was done back then by mixing dry pigments with a binding medium, today we know that pigments in dry form are hazardous. Instead, I had to use paints that were already suspended in water. Therefore I chose highly pigmented watercolors in tubes. As plant sap is not easy to come by, I used egg yolks as the binding agent. This involves separating the yolk from the whites and mixing it with the pigment. Once it was fully mixed, I was able to paint.

It was an interesting experience to paint with this medium. The egg yolk binder creates a thicker texture than that of traditional watercolor or oil paint. One downside to this medium is that it needs to be used on rigid surfaces as it will only bond with certain ones. I realized that I was either going to have to paint on a flat paper instead of one that more closely resembled the texture of the cave wall, or I would have to pick a new medium. In the end, I decided to change the medium I was using and use gouache instead. Gouache is a water medium paint consisting of natural pigment, water, and a binding agent. Happy with my choice, I entered the dark room.

I began by painting in complete silence. When I first entered the room, I stood there for a minute before lighting the candle. I could not see anything around me and it was discerning to have my sense of sight gone suddenly. There was no way to see anything, and although I knew I was alone, it felt like something would jump out at me at any second. I lit the candle, and suddenly the shadows jumped to life. The flickering of the flame created an eerie effect, almost mystical in a sense.

With the candle providing some light, it was easier to focus on the task at hand instead of what was waiting in the shadows. However, now that I could see, I started paying more attention to the silence. All I could hear was the silence. My ears strained to hear a noise that was not there. Instead, I heard this sort of buzzing that I knew was just the result of the silence. Moving back to the task at hand, I started to paint.

When I started to look at the crumpled paper, the most random images came to mind. The first thing that jumped out at me was a shape that looked exactly like the silhouette of a rabbit. The ears and face shape were there, all that was missing was an eye and a nose. So I raised my brush to the page and added them. My eyes then jumped, and there was a feather just waiting to be brought to life. There is nothing to distract you from the shapes jumping out, so you follow them until somehow there is a wing of an airplane and a strawberry painted on the page. I spent fifteen minutes in that dark silent room and could have easily spent fifteen more.

Instead, I switched out my paper and turned on some music. The entire atmosphere in the room changed. There was more energy, and it felt less emotionally dark. However, it was harder to concentrate on finding the shapes in the shadows. There were still random shapes coming to mind, a potato here, a cauldron there, but it took more focus than it did when the room was silent. I found myself spending less time creating new things and more time on the few I had

already created. I added shading to my paintings, giving them a depth the paintings in the dark were lacking.

I think the fact that the paper had shape to it and was not just flat added a deeper aspect to the work. It could just be that this caused there to be more shadows, but it felt different than when I normally paint. I would not necessarily say I was more creative than normal, but it was a different kind of creative process. Instead of coming up with an idea and then painting it, I started painting and then came up with the idea. There was no planned direction. I started with a few lines and took it from there. I was more focused on painting the lines on the paper than on what those lines would create.

In order to get a better picture of what was really causing a change, the darkness or the silence, I decided I needed to also paint in the light. Doing this would allow me to compare the impact of sound when I am not also influenced by the darkness. So I went into the same room with the same supplies and the same crumpled paper hung on the same wall, but the lights were on this time. The difference this made to the room was huge. Without the flickering flame throwing shadows all around, there was no more magic there. It was just a closet with a crumpled piece of paper on the wall. Nonetheless, I went ahead and got ready to paint.

Even with the lights on, the sense of silence was still there. However, it seemed to take up more of my focus than when the room was dark. I was paying more attention to trying to pick up sounds than I was to seeing what shapes came out of the paper. The sound of the brush on the paper was very prominent, something I did not experience when the room was dark.

Additionally, I had a lot more trouble finding what to paint as there were no shadows for shapes to jump out of. In the end, I turned my focus to the creases in the paper from it being crumpled. I

saw what looked like triangles and tried to think what the paleolithic artists would have seen in them. From there, I got the idea of mountains, and then the rest of the picture came together.

When I started to paint for the final time, the setting was pretty similar to how it is when I normally paint. The lights were on and I had music playing in the background. As I was not trying to listen out for sound, I found myself paying more attention to what I was seeing than when I did when it was silent. It was still challenging to find shapes at first, but I followed that direction with the mountain motif still in my mind. I found that time passed much quicker with the music playing than it did when it was silent. The quality of the painting also seemed to be of a higher caliber than those I had done in the dark.

This was a very educational experience. I had never considered painting in the dark before. Artists talk a lot about finding a space with good lighting, and in a normal circumstance, I would have made sure there was light when I was painting. However, I would recommend it to others now that I have done it. It is a completely different experience than painting in the light, and I think it would be beneficial for others to experience it. I think I relied a lot more on instinct than I normally do. It was not about following a plan but going with the flow and seeing where it takes you. Painting in the dark is something I will definitely try again.

Painting in silence was a completely different experience. I felt that it made me focus too much on what was going on in my head and not enough on the act of painting itself. There is something about silence that makes people uncomfortable. They do not want to deal with all the thoughts that come to their mind when there is nothing else distracting them. It makes me wonder how paleolithic artists spent so long painting in silence, or maybe it was not silent and they had a way of bringing sound into the cave with them.

There is a lot to be learned from these ideas on creativity and how paleolithic cave art relates to it. One takeaway is to see paleolithic cave art as proof of how creativity has been an active part of human culture for thousands of generations. This gives us a deeper insight into our ancestors and how our society became the way it is today. In addition, it shows how creativity has endless purposes, from religion and mysticism to beauty and resources. Another takeaway, and perhaps the more prevalent one, is how we can use this information to better the world. The answer to that came to me after analyzing the differences in my painting experiences in the different environments. This could introduce a whole new type of art therapy to the field.

In 1921, Hermann Rorschach developed a projective psychological test to measure thought disorders for the purpose of identifying mental illness. The test consists of showing participants a series of ten inkblot cards and asking them to say what they see in each inkblot. The results served as a springboard for further discussion about the deeper workings of the participants' minds. It has since become one of the world's most famous psychological projective tests. Psychologists use it to examine the test taker's personality characteristics and emotional functioning. What the test taker sees corresponds to their underlying thought patterns and gauges their general level of well-being.

The process of seeing an image in the inkblot is remarkably similar to seeing an image in the shadows of a paper. Now instead of having the participant just say what they see, what if they painted it themselves. This would allow them to get the benefits of creating art, such as a safe place to relieve emotions and find connection, as well as giving the psychologists additional information that a Rorschach inkblot test would tell them. It would be an opportunity for the psychologists to get a better read on the client while the client performs a relaxing therapeutic

activity. After the client is finished painting, there would be a conversation about what they created and how the experience made them feel.

Creating a therapeutic experience like this would be embracing what paleolithic people already knew. The creative process is something magical and can have extreme benefits. While we may not know exactly what the purpose was of those paleolithic people entering caves and painting, we know that there was a purpose, and we can give it extra meaning by learning from it. When an idea is fostered over so many generations as creativity has been, we know we must continue to expand and learn from it. As Robert Penn Warren once said, “History cannot give us a program for the future, but it can give us a fuller understanding of ourselves, and of our common humanity, so that we can better face the future.”



Created in the dark by candlelight and silent,  
Photographed in the dark by candlelight



Created in the dark by candlelight and silent,  
photographed in the light



Created in the dark by candlelight with music,  
Photographed in the dark by candlelight

Created in the dark by candlelight with music,  
photographed in the light







Created in the dark by candlelight with music,  
Photographed in the dark by candlelight

Created in the dark by candlelight with  
music, photographed in the light





Created in the light and silent, photographed in the light



Created in the light with music, photographed in the light

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